

Top mass subgroup:

Introduction to the top mass group and summary of activities

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- 1) What has already been done?
- 2) Some ongoing activities
- 3) Things we hope to achieve today and in the near future (target summer 2013)

1) What has already been done?

A writeup by Sonny Mantry , A. Mitov, Peter Skands and Erich Varnes

(<http://www.snowmass2013.org/tiki-index.php?page=Fully+Understanding+the+Top+Quark>)

It contains:

- A collection of issues in top mass determination at hadron colliders
- Methods for top mass extraction
- Discusses the prospects and current need for precision in M_{top}

What it doesn't contain:

- Discussion of M_{top} and Γ_{top} @ lepton collider (2 talks today)
- Possible new physics contamination in the extraction of M_{top}

2) Some ongoing activities

- ❖ One of the things on the “wishlist” is the MEM method at NLO.

J. Campbell, W. Giele, C. Williams

- The authors are reporting real progress. First results by summer 2013.

- ❖ Second “wishlist” item: extraction from leptonic distributions (to minimize MC systematics)

- Ongoing work by theorists and ATLAS and CMS
- Experimental results may not be feasible for early summer 2013

- ❖ Third “wishlist” item: the MC mass. A hard one. Some ideas floated around.

- Might or might not produce results by summer 2013.

- ❖ Another work reported

S. Alioli, P. Fernandez, J. Fuster, A. Irles, S. Moch, P. Uwer, M. Vos '13

- Not part of the “wishlist” (relies on extraction from singular kinematics and MC's)

3) Things we hope to achieve today and in the near future (target summer 2013)

- ❖ A word from the LHC: Methods used/to be used. MC generators used, etc.

Talk by S. Wimpenny

- ❖ What can we expect from lepton colliders regarding top mass and width

Talks by F. Simon and A. Penin

- ❖ Towards understanding top's MC mass at hadron colliders: final state interactions

Talk by G. Sterman

Beyond today:

- Some discussions/work with people working on bSM physics.
- Preliminary estimates/results by summer 2013 are feasible.
- Contributions and ideas welcome.